

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE


CARRIER CORPORATION,)	
)	
Plaintiff,)	
)	
v.)	Civ. No. 12-930-SLR
)	
GOODMAN GLOBAL, INC.,)	
GOODMAN MANUFACTURING)	
COMPANY, L.P., GOODMAN GLOBAL)	
HOLDINGS, INC., GOODMAN)	
DISTRIBUTION, INC., AND)	
GOODMAN SALES COMPANY,)	
)	
Defendants,)	

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MEMORANDUM OPINION

Dated: August 14, 2014
Wilmington, Delaware


ROBINSON, District Judge

I. INTRODUCTION

Plaintiff Carrier Corporation (“Carrier”) commenced this litigation on July 19, 2012, against defendants Goodman Global, Inc., Goodman Manufacturing Company, L.P., Goodman Global Holdings, Inc., Goodman Distribution, Inc., and Goodman Sales Company (collectively, “Goodman”) alleging patent infringement. (D.I. 1) Goodman answered the complaint and asserted counterclaims on September 28, 2012. (D.I. 16; D.I. 17) Carrier answered the counterclaims on October 22, 2012. (D.I. 25) Carrier filed an unopposed motion for leave to file a first amended complaint on January 31, 2013 and Carrier filed a second amended complaint on February 5, 2013. (D.I. 50; D.I. 51) Goodman answered the amended complaint and counterclaimed on February 22, 2013. (D.I. 55; D.I. 56) On March 15, 2013, Carrier answered the counterclaims. (D.I. 60)

Presently before the court are several motions: Goodman’s motion for summary judgment of non-infringement (D.I. 235); motion for summary judgment of invalidity (D.I. 240);¹ and motion to strike and exclude certain expert testimony (D.I. 236); as well as Carrier’s amended motion for summary judgment of validity (D.I. 244).² The court has jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

II. BACKGROUND

A. Parties

¹This motion replaces Goodman’s motion for summary judgment of invalidity (D.I. 234), which motion, therefore, is denied as moot.

²This motion replaces Carrier’s motion for summary judgment of no invalidity (D.I. 233), which motion, therefore, is denied as moot.

Carrier is a corporation organized under the laws of Delaware with a principal place of business at One Carrier Place, Farmington, CT 06032. Goodman Global, Inc. is a corporation organized under the laws of Delaware. Goodman Manufacturing Company, L.P. is a partnership organized under the laws of Texas. Goodman Global Holdings, Inc. is a corporation organized under the laws of Delaware. Goodman Distribution, Inc. is a corporation organized under the laws of Texas. Goodman Distribution, Inc. is qualified with the Delaware Secretary of State to do business in Delaware, and its registered agent in Delaware is The Corporation Trust Company, located at 1209 Orange Street, Wilmington, DE 19801. Goodman Sales Company is a corporation organized under the laws of Texas. Each of the Goodman defendants has a principal place of business at 5151 San Felipe Street, Suite 500, Houston, TX 77056.

B. Patent

Carrier asserts that certain of Goodman's products infringe claims 6-9, 12-14, and 16-18 of U.S. Patent No. 7,243,004 ("the '004 patent"), titled "Self-Configuring Controls for Heating, Ventilating and Air Conditioning Systems," filed January 7, 2004 and issued July 10, 2007.³ The '004 patent is directed to a self-configuring HVAC system, wherein HVAC "units are provided with an electronic control that reports the unit's particular characteristics to a central control. The central control takes in the characteristics of each of the several units, and has available to it optimum operational strategies based upon the combination of several units that have reported." (1:51-58)⁴

³U.S. Patent No. 7,775,452 ("the '452 patent") is no longer at issue.

⁴All citations are to the '004 patent unless otherwise indicated.

III. STANDARD OF REVIEW

“The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). The moving party bears the burden of demonstrating the absence of a genuine issue of material fact. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 415 U.S. 574, 586 n.10 (1986). A party asserting that a fact cannot be—or, alternatively, is—genuinely disputed must support the assertion either by citing to “particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations (including those made for the purposes of the motions only), admissions, interrogatory answers, or other materials,” or by “showing that the materials cited do not establish the absence or presence of a genuine dispute, or that an adverse party cannot produce admissible evidence to support the fact.” Fed. R. Civ. P. 56(c)(1)(A) & (B). If the moving party has carried its burden, the nonmovant must then “come forward with specific facts showing that there is a genuine issue for trial.” *Matsushita*, 415 U.S. at 587 (internal quotation marks omitted). The court will “draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence.” *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000).

To defeat a motion for summary judgment, the non-moving party must “do more than simply show that there is some metaphysical doubt as to the material facts.”

Matsushita, 475 U.S. at 586-87; *see also Podohnik v. U.S. Postal Service*, 409 F.3d 584, 594 (3d Cir. 2005) (stating party opposing summary judgment “must present more

than just bare assertions, conclusory allegations or suspicions to show the existence of a genuine issue”) (internal quotation marks omitted). Although the “mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment,” a factual dispute is genuine where “the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Anderson v. Liberty Lobby, Inc.*, 411 U.S. 242, 247-48 (1986). “If the evidence is merely colorable, or is not significantly probative, summary judgment may be granted.” *Id.* at 249-50 (internal citations omitted); *see also Celotex Corp. v. Catrett*, 411 U.S. 317, 322 (1986) (stating entry of summary judgment is mandated “against a party who fails to make a showing sufficient to establish the existence of an element essential to that party’s case, and on which that party will bear the burden of proof at trial”).

IV. DISCUSSION

A. The ‘004 Patent Claims

Claim 6 is directed to an HVAC system and recites:

An HVAC system comprising;

- an indoor unit having a control operable to communicate characteristic information of said indoor unit to a central control, an outdoor unit having a control operable to communicate characteristic information of said outdoor unit to said central control; and

- said central control communicating with said indoor unit and said outdoor unit, and said central control receiving said characteristic information from said indoor unit and said outdoor unit, and determining an optimal control strategy for said indoor unit and said outdoor unit based upon said reported characteristic information, said central control storing a plurality of optimal control strategies, and selecting a particular one of said optimal control strategies to utilize based upon the particular characteristic information reported from said indoor unit and said outdoor unit; and

- wherein said indoor unit is one of a furnace and a heater/fan combination, and said outdoor unit is done [sic] of an air conditioner and a heat pump.

(5:15-34) Claim 17 is also directed to an HVAC system:

An HVAC system comprising:
an indoor unit having a control operable to communicate characteristic information of said indoor unit to a central control, an outdoor unit having a control operable to communicate characteristic information of said outdoor unit to said central control;
said central control communicating with said indoor unit and said outdoor unit, and said central control receiving said characteristic information from said indoor unit and said outdoor unit, and determining an optimal control strategy for said indoor unit and said outdoor unit based upon said reported characteristic information, said central control storing a plurality of optimal control strategies, and selecting a particular one of said optimal control strategies to utilize based upon the particular characteristic information reported from said indoor unit and said outdoor unit; and
said central control receiving said characteristic information, and accessing a stored memory wherein various control algorithms are stored based upon particular combinations of indoor and outdoor units, and said central control utilizing said associated optimum control algorithms based upon the communicated characteristic information of said indoor and outdoor units.

(6:8-31) Claim 18 is directed to a method of operating the HVAC system:

A method of operating an HVAC system comprising the steps of:
(1) providing a plurality of units in an HVAC system including at least an indoor unit and an outdoor unit and a central control said indoor and outdoor units having a particular set of characteristics from a plurality of available types of indoor and outdoor units;
(2) communicating stored characteristic information from said indoor and outdoor units to said central control; and
(3) associating said reporting characteristic information at said central control, to identify a particular combination of said reporting indoor and outdoor units, and accessing optimum control algorithms, said memory including a plurality of control algorithms, with each of said control algorithms being associated with a particular set of combination of characteristics of the plurality of HVAC units that may report to the control, said control selecting one of said plurality of control algorithms based upon said particular combination of said indoor and outdoor units, and utilizing said selected one of said plurality of control algorithms to control the plurality of units.

(6:32-54)

B. Infringement

1. Standard

A patent is infringed when a person “without authority makes, uses or sells any patented invention, within the United States . . . during the term of the patent.” 35 U.S.C. § 271(a). A two-step analysis is employed in making an infringement determination. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995). First, the court must construe the asserted claims to ascertain their meaning and scope. See *id.* Construction of the claims is a question of law subject to de novo review. See *Cybor Corp. v. FAS Techs.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998). The trier of fact must then compare the properly construed claims with the accused infringing product. See *Markman*, 52 F.3d at 976. This second step is a question of fact. See *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998).

“Direct infringement requires a party to perform each and every step or element of a claimed method or product.” *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1378 (Fed. Cir. 2007), *overruled on other grounds by* 692 F.3d 1301 (Fed. Cir. 2012). “If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law.” *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000). If an accused product does not infringe an independent claim, it also does not infringe any claim depending thereon. See *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1553 (Fed. Cir. 1989). However, “[o]ne may infringe an independent claim and not infringe a claim dependent on that claim.” *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1359 (Fed. Cir. 2007) (quoting *Wahpeton Canvas*, 870 F.2d at 1552) (internal quotations omitted). A product that does not

literally infringe a patent claim may still infringe under the doctrine of equivalents if the differences between an individual limitation of the claimed invention and an element of the accused product are insubstantial. See *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 24 (1997). The patent owner has the burden of proving infringement and must meet its burden by a preponderance of the evidence. See *SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

When an accused infringer moves for summary judgment of non-infringement, such relief may be granted only if one or more limitations of the claim in question does not read on an element of the accused product, either literally or under the doctrine of equivalents. See *Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1376 (Fed. Cir. 2005); see also *TechSearch, L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1369 (Fed. Cir. 2002) (“Summary judgment of noninfringement is ... appropriate where the patent owner’s proof is deficient in meeting an essential part of the legal standard for infringement, because such failure will render all other facts immaterial.”). Thus, summary judgment of non-infringement can only be granted if, after viewing the facts in the light most favorable to the non-movant, there is no genuine issue as to whether the accused product is covered by the claims (as construed by the court). See *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1304 (Fed. Cir. 1999).

To establish indirect infringement, a patent owner has available two theories: active inducement of infringement and contributory infringement. See 35 U.S.C. § 271(b) & (c). Liability for indirect infringement may arise “if, but only if, [there is] ...

direct infringement.” *Limelight Networks, Inc. v. Akamai Technologies, Inc.*, 134 S. Ct. 2111, 2117 (2014) (citing *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961) (emphasis omitted)).

Under 35 U.S.C. § 271(b), “whoever actively induces infringement of a patent shall be liable as an infringer.” “To prove induced infringement, the patentee must show direct infringement, and that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another’s infringement.” *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1363 (Fed. Cir. 2012) (internal quotations omitted). “[I]nduced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement.” *Global-Tech Appliances, Inc. v. SEB S.A.*, — U.S. —, 131 S. Ct. 2060, 2068 (2011). The knowledge requirement can be met by a showing of either actual knowledge or willful blindness. *See id.* “[A] willfully blind defendant is one who takes deliberate actions to avoid confirming a high probability of wrongdoing and who can almost be said to have actually known the critical facts.” *Id.* at 2070-71. “[I]nducement requires evidence of culpable conduct, directed to encouraging another’s infringement, not merely that the inducer had knowledge of the direct infringer’s activities.” *DSU Medical Corp. v. JMS Co., Ltd.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (en banc in relevant part) (citations omitted).

To establish contributory infringement, the patent owner must demonstrate the following: (1) an offer to sell, sale, or import; (2) a component or material for use in a patented process constituting a material part of the invention; (3) knowledge by the defendant that the component is especially made or especially adapted for use in an

infringement of such patents; and (4) the component is not a staple or article suitable for substantial noninfringing use. *See Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1326 (Fed. Cir. 2010) (citing 35 U.S.C. § 271(c)). Defendant “must know ‘that the combination for which his component was especially designed was both patented and infringing.’” *Global-Tech*, 131 S. Ct. at 2067 (citing *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 488 (1964)).

2. Analysis

a. The “selecting” limitation

Each of the asserted independent claims requires “selecting” a particular “optimum control algorithm” based upon the “reported characteristic information” from the indoor and outdoor units. Goodman presents attorney argument to disagree with the opinions of Dr. Henze that Goodman’s thermostats meet this limitation. Goodman also relies on the testimony of Scott Vogel⁵ to argue that the thermostat selects between the heating and cooling algorithms based on a comparison between the room temperature and the thermostat setpoint. For the reasons explained below, such attorney argument, without explanation from Goodman’s experts or citation to an expert report,⁶ does not provide the court with a record on which to decide a motion for summary judgment of non-infringement. The court concludes that Goodman has failed to meet its burden of persuasion on summary judgment with regard to the “selecting”

⁵The 30(b)(6) witness of a third party, Emerson.

⁶In its reply briefing, Goodman does provide references to Dr. Auslander’s deposition to refute Carrier’s answering argument regarding source code.

limitation and denies the motion in this regard.⁷

b. Make, sell or offer for sale HVAC systems

Goodman argues that it cannot be liable for direct infringement because it only sells individual HVAC units, not HVAC systems, and the '004 patent requires an HVAC system that is operational. (D.I. 252 at 28) According to Carrier, and not denied by Goodman, it was not until 11:19 p.m. on the last day of fact discovery (October 10, 2013) that Goodman added this contention as a defense, by supplementing its interrogatory response on non-infringement: "Carrier has not established that Goodman puts the Accused System into operation." (D.I. 281 at 27-28 n.23) Goodman's expert report dated February 20, 2014 followed with the assertion that, "to my knowledge, Goodman only manufactures HVAC units," not "HVAC systems." (*Id.*) Carrier addressed this cryptic information by asking Goodman whether it intended to argue that it does not "make" HVAC systems, to which Goodman finally replied - the day before its summary judgment brief was filed - that its customers were the only direct infringers. (*Id.*)

The parties are represented by highly regarded patent lawyers. How can it be that a fundamental contention - defendant does not sell the accused system - was not even identified by either party until the last minutes of fact discovery?⁸ Indeed, the record is bereft of all meaningful evidence relating to this issue, with Carrier arguing that

⁷As the court did not adopt Goodman's construction of the limitation "central control," the court does not address Goodman's additional non-infringement argument predicated on such construction.

⁸Under the court's new scheduling regime, this defense would be a candidate for focused discovery and an early motion practice.

it had no notice of the contention and, therefore, no opportunity to pursue related discovery (D.I. 281 at 27), and Goodman arguing that it had no responsibility to give any more notice of its defense than it did because it is Carrier's ultimate responsibility to prove direct infringement (D.I. 293 at 10).

It is no secret that the cardinal governing principle of case management for this judicial officer is that only issues that have been properly vetted through discovery are considered by the court and/or presented to the jury. Second to that principle is that discovery, an expensive and burdensome proposition at best, should be limited to those issues that are actually in contention. The parties are supposed to know where their dispute lies in order to focus their resources on relevant sources of information. Although difficult to believe in this case, even if Goodman came to the realization late in the process that its sale of HVAC units cannot meet the requirement for an "operational system,"⁹ Goodman nevertheless failed to articulate that position with any clarity so that Carrier could respond and give the court the opportunity to adjust the schedule to accommodate discovery on an important issue. Instead, Goodman equivocated and failed to provide any evidence (like sales figures) that could have alerted Carrier to the issue. Goodman did not play by the rules; therefore, it must suffer the consequences.

⁹It remains unclear to the court what Goodman's defense is in this regard: (1) that it sells individual units as opposed to units which are marketed and sold as a "system;" or (2) that the accused "system" must be operational to infringe and, therefore, regardless of how Goodman's products are marketed and sold, Goodman does not infringe because it never "operates" the system; or (3) some other iteration that is not apparent to the court. The first option involves issues of fact that should have been addressed through fact discovery. The second option also implicates issues of law that should have been addressed through a motion practice for the court to resolve prior to trial. It is far too late in the process for Goodman to be explaining a third option.

Goodman's motion for summary judgment is denied in this regard. The court will address at the pretrial conference whether Goodman will be precluded from presenting such a defense at trial.

c. Indirect infringement

With respect to induced infringement, Goodman had actual knowledge of the '004 patent and Carrier's infringement contentions as least as early as the filing of the lawsuit. The question of any earlier knowledge is really a question relevant only to damages, and presents disputed issues of fact in any event precluding summary judgment. The question of whether Goodman was willfully blind also presents issues of fact not appropriately addressed on summary judgment. Goodman's motion in this regard is denied.

C. Invalidity

1. Indefiniteness

a. Standard

The definiteness requirement is rooted in § 112, ¶ 2, which provides that "the specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." "A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims." *Personalized Media Comm., LLC v. Int'l Trade Com'n*, 161 F.3d 696, 705 (Fed. Cir. 1998). Reiterating the public notice function of patents, the Supreme Court recently explained that "a patent must be precise enough to afford clear notice of what is claimed, thereby 'appris[ing] the public

of what is still open to them.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014) (citations omitted). In balancing the need for clarity with the inherent limitations of the English language, 35 U.S.C. § 112, ¶ 2 requires “that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Id.*

b. Analysis

The court has construed “optimal control strategy” as “a predetermined control strategy best-suited to operate the system for a given combination of units.” Carrier’s expert, Dr. Henze, described such a strategy as “the control algorithm ‘best-suited’ or ‘predetermined’ by the manufacturer to be the appropriate algorithm for a particular combination of units.” (D.I. 280, ex. J at ¶ 1133) Dr. Henze further explained that the patent is directed “to apply the algorithm that the manufacturer predetermined or identified as best-suited for a given combination of equipment or characteristics.” (*Id.*) Goodman’s arguments regarding indefiniteness focus on how a person of ordinary skill in the art would devise what an “optimum/optimal” strategy is for a given HVAC system.

The court’s construction and Dr. Henze’s explanation focus on the “predetermined” nature of the “optimal control strategy.” The court concludes that one of ordinary skill in the art is apprised with reasonable certainty that the claims focus on whether a manufacturer has predetermined control strategies that it deems optimal for a given set of HVAC units, that is, the central control would select the optimal control strategy provided to it by the manufacturer. The limitation at issue is not indefinite in the context of the invention and claims. The court also construed the limitation, “said

control,” in claim 12, to be “said central control,” as it refers to claim 9. Goodman’s motion for invalidity as to indefiniteness of the above limitations is denied.

2. Anticipation

a. Standard

Under 35 U.S.C. § 102(b), “[a] person shall be entitled to a patent unless the invention was patented or described in a printed publication in this or a foreign country . . . more than one year prior to the date of the application for patent in the United States.” The Federal Circuit has stated that “[t]here must be no difference between the claimed invention and the referenced disclosure, as viewed by a person of ordinary skill in the field of the invention.” *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). In determining whether a patented invention is explicitly anticipated, the claims are read in the context of the patent specification in which they arise and in which the invention is described. *Glaverbel Societe Anonyme v. Northlake Mktg. & Supply, Inc.*, 45 F.3d 1550, 1554 (Fed. Cir. 1995). The prosecution history and the prior art may be consulted if needed to impart clarity or to avoid ambiguity in ascertaining whether the invention is novel or was previously known in the art. *Id.* The prior art need not be ipsissimis verbis (i.e., use identical words as those recited in the claims) to be anticipating. *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716 (Fed. Cir. 1984).

An anticipation inquiry involves two steps. First, the court must construe the claims of the patent in suit as a matter of law. *Key Pharms. v. Hercon Labs Corp.*, 161 F.3d 709, 714 (Fed. Cir. 1998). Second, the finder of fact must compare the construed

claims against the prior art. *Id.* A finding of anticipation will invalidate the patent.

Applied Med. Res. Corp. v. U.S. Surgical Corp., 147 F.3d 1374, 1378 (Fed. Cir. 1998).

b. Analysis

The Federal Circuit has declined to “state a per se rule that expert testimony is required to prove infringement when the art is complex.” *See Centricut, LLC v. Esab Grp., Inc.*, 390 F.3d 1361, 1369-70 (Fed. Cir. 2004) (“In many patent cases expert testimony will not be necessary because the technology will be ‘easily understandable without the need for expert explanatory testimony.’”) (citations omitted); *see also, Wyers v. Master Lock Co.*, 616 F.3d 1231, 1239-40, 1242 (Fed. Cir. 2010) (The existence of a motivation to combine references “may boil down to a question of ‘common sense’” and “expert testimony is not required when the references and the invention are easily understandable”). However, “[t]ypically, testimony concerning anticipation must be testimony from one skilled in the art¹⁰ and must identify each claim element, state the witnesses’ interpretation of the claim element, and explain in detail how each claim element is disclosed in the prior art reference.” *Schumer v. Laboratory Computer Systems, Inc.*, 308 F.3d 1304, 1315 (2002).

Despite the Federal Circuit’s preference for expert testimony and although Goodman has expert reports, Goodman relies solely on attorney argument to compare

¹⁰Dr. Henze defines a person of ordinary skill in this case as “an individual having a bachelor’s degree in engineering and two years of experience with HVAC controls, or alternatively, having some engineering training and ten years of experience with HVAC controls.” (D.I. 253, ex. 4 at ¶ 21) Goodman’s expert adds to this definition that the individual has “similar education and/or experience in networking and embedded computing for control systems.” (D.I. 253, ex. 5 at ¶ 21)

the '004 patent to the prior art, Matsumoto¹¹ and, without reference to expert opinion, disagrees with the opinions of Dr. Henze. From this analysis, Goodman concludes that the asserted claims are anticipated.

The court respectfully disagrees with Goodman's argument that no expert opinion is needed to support its anticipation argument. The present technology involves complex technology, i.e., controlling HVAC systems using algorithms loaded into a central control. The court concludes that attorney argument is not sufficient to meet the burden of persuasion on invalidity at the summary judgment motion stage. Goodman's motion is denied in this regard.

Carrier cross-moves for summary judgment of no anticipation of the '004 patent by the asserted prior art, citing to its expert opinion that "none of the five anticipation references in this case discloses 'optimal control algorithms' and that none of the prior art at issue in this case discloses all of the larger claim terms incorporating the phrase 'optimal control algorithms.'" (D.I. 254 at 19) The provided citation to Dr. Henze's validity report recites "[i]t is my opinion that claims 6, 7, 8, 9, 12, 13, 14, 16, 17 and 18 of the '004 Patent are not invalid in view of the prior art, alone or in combination, cited by Goodman." (D.I. 255, ex. D at ¶ 107)

Carrier further argues that Dr. Auslander, Goodman's expert, conceded that the prior art does not contain the limitation "optimal control strategies." After reviewing the cited deposition testimony of Dr. Auslander, the court disagrees with this interpretation of the cited testimony. Dr. Auslander's concession that there is no disclosure of

¹¹Japanese Patent 07-12392.

“optimal control strategy” in the prior art is based on his opinion that “the term ‘optimal’ is indefinite throughout and is not identifiable anywhere.”¹² (D.I. 255, ex. A at 142:24-143:1, 155:20-156:13, 142:19-23, 166:23-167:3)

The court is once again left without the essential analysis (or citation thereto),¹³ that is, Carrier's demonstration of the absence of a genuine issue of material fact regarding Goodman's anticipation arguments, to determine whether the limitation at issue "optimal control strategy" is, as argued by Carrier, not found in the prior art. *Schumer*, 308 F.3d at 1316 (“It is not our task, nor is it the task of the district court, to attempt to interpret confusing or general testimony to determine whether a case of invalidity has been made out, particularly at the summary judgment stage.”). Carrier’s cross-motion is denied.¹⁴

3. Obviousness

a. Standard

¹²As the court has construed the limitation “optimal control strategy,” Goodman will be required to submit a proffer to the court regarding whether and how it intends to proceed with a demonstration of anticipation at trial.

¹³An independent review of the provided exhibit of Dr. Henze’s validity report reveals that the section regarding validity begins at ¶ 107 (page 53). The next page (54) continues with ¶¶ 108-09 and then the pages jump to ¶ 245 (page 117). Moreover, a search for the term “optimal” in the validity section returns the term for the first time in the exhibit at ¶ 599 (page 263), stating “Dr. Auslander does not specifically allege that a particular feature of Matsumoto teaches or discloses ‘an optimal control strategy.’” (D.I. 255, ex. D)

¹⁴Carrier presents two additional arguments for summary judgment of no anticipation, each depending on Goodman’s proposed claim constructions. As the court did not adopt Goodman’s proposed constructions of the limitations “control algorithm” and “central control,” the court does not address the arguments predicated on such constructions. Carrier’s motion for summary judgment is denied in this regard.

“A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” 35 U.S.C. § 103(a). Obviousness is a question of law, which depends on underlying factual inquiries.

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)).

“[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. Likewise, a defendant asserting obviousness in view of a combination of references has the burden to show that a person of ordinary skill in the relevant field had a reason to combine the elements in the manner claimed. *Id.* at 418-19. The Supreme Court has emphasized the need for courts to value “common sense” over “rigid preventative rules” in determining whether a motivation to combine existed. *Id.* at 419-20. “[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420. In addition to showing that a person of ordinary skill in the art would have had reason to attempt to make the composition or

device, or carry out the claimed process, a defendant must also demonstrate that “such a person would have had a reasonable expectation of success in doing so.”

PharmaStem Therapeutics, Inc. v. ViaCell, Inc., 491 F.3d 1342, 1360 (Fed. Cir. 2007).

A combination of prior art elements may have been “obvious to try” where there existed “a design need or market pressure to solve a problem and there [were] a finite number of identified, predictable solutions” to it, and the pursuit of the “known options within [a person of ordinary skill in the art’s] technical grasp” leads to the anticipated success. *Id.* at 421. In this circumstance, “the fact that a combination was obvious to try might show that it was obvious under § 103.” *Id.* Federal Circuit precedent has also established that “[s]tructural relationships may provide the requisite motivation or suggestion to modify known compounds to obtain new compounds,” and that particular types of structural similarity can give rise to a case of *prima facie* obviousness.

Genetics Institute, LLC v. Novartis Vaccines and Diagnostics, Inc., 655 F.3d 1291, 1312 (Fed. Cir. 2011) (citing *In re Deuel*, 51 F.3d 1552, 1558 (Fed. Cir. 1995)).

A court is required to consider secondary considerations, or objective indicia of nonobviousness, before reaching an obviousness determination, as a “check against hindsight bias.” *See In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063 (Fed. Cir. 2012). “Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

“Because patents are presumed to be valid, see 35 U.S.C. § 282, an alleged infringer seeking to invalidate a patent on obviousness grounds must establish its obviousness by facts supported by clear and convincing evidence.” *Kao Corp. v. Unilever U.S., Inc.*, 441 F.3d 963, 968 (Fed. Cir. 2006) (citation omitted). In conjunction with this burden, the Federal Circuit has explained that,

[w]hen no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.

PowerOasis, Inc. v. T-Mobile USA, Inc., 522 F.3d 1299, 1304 (Fed. Cir. 2008) (quoting *Am. Hoist & Derrick Co. v. Sowa & Sons*, 725 F.2d 1350, 1359 (Fed. Cir. 1984)).

b. Analysis

Goodman moves for summary judgment that the asserted claims are obvious over the combination of Bahel¹⁵ and the HVAC Handbook.¹⁶ Goodman again presents no affirmative evidence to support its position,¹⁷ instead relying on attorney argument. As discussed above, this is insufficient to meet Goodman’s burden of persuasion for the technology at issue.

¹⁵U.S. Patent No. 5,475,986 to Bahel et al.

¹⁶The Handbook of Heating, Ventilation and Air Conditioning, edited by Jan F. Kreider (“the HVAC Handbook”).

¹⁷With the exception of a new declaration from Dr. Auslander (which Carrier moves to strike) containing two paragraphs (13 lines) of “opinions” and providing no analysis of “differences between the prior art and the claims at issue” or secondary considerations. (D.I. 242, ex. 12)

Carrier cross-moves for summary judgment of non-obviousness over the combination of Bahel and the HVAC Handbook. Carrier disputes whether a person of skill in the art would combine Bahel and the HVAC Handbook. While Dr. Henze argues that the disciplines of commercial and residential HVAC systems are different and “[a] residential HVAC designer cannot (and would not) simply adopt elements known to the commercial HVAC industry” without analyzing the subsequent feasibility, he also stated that “[t]here is an overlap in HVAC control concepts between the residential and the commercial world.” (D.I. 255, ex. D at ¶¶ 971-974; D.I. 243, ex. 6 at 289:5-7) Dr. Henze’s definition of a person of ordinary skill includes “experience with HVAC controls,” but does not designate whether such experience is from residential or commercial settings. (D.I. 243, ex. 6 at 289:5-290:14) Moreover, one of the inventors of the ‘004 patent testified that Carrier used an existing protocol from its commercial HVAC business to use for residential purposes in the Infinity system. (D.I. 243, ex. 15 at 137:14-24, 152:5-153:11.32) The ‘004 patent discusses HVAC systems, without specifying whether such systems are “residential” or “commercial.” Figure 1 describes “a schematic view of a **building** HVAC system.” (2:16) On this record, the court concludes that combining references directed to commercial and residential HVAC system is proper.

As to whether the limitations of the asserted claims are disclosed in the prior art, Dr. Henze disagrees with Dr. Auslander’s opinions¹⁸ regarding the limitation “characteristic information” and argues that the “preferred operating conditions”

¹⁸Not cited by Goodman.

disclosed in the HVAC Handbook are not the claimed “characteristic information.” Dr. Henze explains that “[o]ne of skill in the art would have understood ‘condition’ to refer to a variable (such as an environmental variable), and not a trait of an HVAC unit.” (D.I. 280, ex. J at ¶ 919) He opines that information such as the model number is “generated by a manufacturer and stored on a website,” which does not meet the limitation “said central control receiving said characteristic information from said indoor unit and said outdoor unit.” (D.I. 280, ex. J at ¶ 926)

In reference to the motivation to combine, Dr. Auslander stated that the HVAC Handbook described the concept of applying “plug-and-play” technology to an HVAC system. (D.I. 272, ex. 12 at ¶¶ 72-74) Dr. Henze disagrees, explaining that such technology uses an internet connection whereas the ‘004 patent relies on the “central control” of the claimed system. (D.I. 280, ex. J at ¶ 916) While Dr. Auslander¹⁹ presents a comparison of the claims of the ‘004 patent against the combination of Bahel and the HVAC Handbook, Dr. Henze disagrees with these opinions and concludes that the combination would not meet the claim limitations of the asserted claims. (D.I. 271, ex. 11; D.I. 280, ex. J at ¶¶ 909-965) Such expert disagreements present genuine issues of material fact²⁰ and are better left to the province of a jury.

¹⁹Carrier moves to strike the declaration of Dr. Auslander (D.I. 242, ex. 12) submitted with Goodman’s summary judgment briefing. As discussed above, such declaration contains just two paragraphs (13 lines) of “opinions” with virtually no analysis. Therefore, the court does not rely on such declaration for its decision and cautions Goodman’s counsel that any expert opinion offered at trial must have a basis in the properly exchanged expert reports and depositions per this court’s practice.

²⁰The parties’ experts also disagree on whether the “self-configuration” aspect of the system is present in the prior art and on the correct interpretation of the testimony of Pham, a named inventor on the Bahel patent, as to the “auto-configuration” of the

Both parties' motions for summary judgment as to obviousness are denied.²¹

V. ENVIRACOM PRIOR ART

A few weeks before the close of fact discovery,²² Goodman requested documents and deposition testimony from Honeywell regarding the "Enviracom device." Goodman received 37 documents in October 2013. The parties stipulated that the deposition of a Honeywell employee could take place after the close of fact discovery in December. (D.I. 162) The deposition was taken December 4, 2013 and Goodman subsequently supplemented its invalidity contentions on December 12, 2013 (nine months after the deadline for identification of prior art). (D.I. 255, ex. H, ex. R, ex. S) Goodman argues that Carrier has suffered no prejudice and that Carrier "waived" any arguments regarding this prior art after raising the issue with Goodman in emails. Goodman does not dispute Carrier's assertion that Goodman did not disclose that it was seeking to assert the new documents as prior art. Moreover, Goodman attempts to rely on the mention of Honeywell's "Enviracom" in Carrier's presentations from 2001-

Varitech system.

²¹Carrier asserts that the case at bar is similar to *Mytee Prods., Inc. v. Harris Research, Inc.*, 439 Fed. App'x 882 (Fed. Cir. 2011), wherein the Federal Circuit concluded that summary judgment of non-obviousness was proper when defendant relied on "nothing more than 'conclusory assertions, gross generalities, and unsupported assumptions made by counsel'" to provide a "reason why a person of ordinary skill would have been motivated to combine the references." *Id.* at 886. However, Goodman provides plausible arguments, supported by some evidence and expert opinion, that the '004 patent is obvious in view of the combination of Bahel and the HVAC Handbook. This is sufficient to defeat Carrier's motion for summary judgment.

²²September 26, 2013. (D.I. 27)

2003 as evidence that Carrier is not prejudiced because it had knowledge of such a “system.”

The court disagrees. Goodman provides no explanation as to why it did not request such documents in a timely fashion, nor as to why it should be allowed to identify prior art nine months after the deadline. Dr. Auslander’s report of January 7, 2014 does not separately analyze such prior art, instead including Goodman’s invalidity chart with minimal changes. (D.I. 255, Ex. H at app. B-3; ex. R) Such information regarding the Enviracom system was not properly vetted through discovery and it is unreasonable at this late stage to require Carrier to respond to such allegations. The court will exclude this invalidity theory from trial.²³

VI. MOTION TO STRIKE

Rule 702 of the Federal Rules of Civil Procedure allows a qualified witness to testify in the form of an opinion if the witness’ “scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue” and if his/her testimony is the product of reliable principles and methods which have been reliably applied to the facts of the case.

With respect to Goodman’s motion to strike Carrier’s proffered expert opinions on secondary considerations of obviousness, it is granted only to the extent that Drs. Blackburn and Henze attribute commercial success to the ease of installation due to the single data bus, an invention disclosed in the ‘452 patent, not the ‘004 patent; i.e., Carrier cannot claim a nexus between commercial success and ease of installation due to wiring when the latter is an inventive aspect of the ‘452 patent, not the ‘004 patent.

²³Without reaching the substantive question of whether the Enviracom system was being “used” under 35 U.S.C. § 102(a) or “on sale” under 35 U.S.C. § 102(b).

Otherwise, having reviewed the expert reports, the court is satisfied that the analyses contained therein relating to secondary considerations pass muster under *Daubert*.

With respect to Goodman's motion to strike Dr. Henze's infringement opinion regarding claim 12 for lack of any opinion regarding infringement of claim 9, from which claim 12 depends, the court is satisfied with Carrier's explanation, that is, that the analysis of claim 9²⁴ did not require specialized expertise. Ironically, Goodman argued that expert testimony was not required to support its motion for summary judgment on invalidity. Although the court has found the technology at issue to be sufficiently complex to warrant expert testimony, the court declines to exclude Dr. Henze's expert testimony regarding claim 12 so long as there is a factual basis for the jury to find infringement of claim 9.

With respect to claim 18 and Goodman's argument that Dr. Henze failed to provide a sufficient basis for his opinion that Goodman's ComfortNet system has no substantial non-infringing uses, it is my impression from reading the papers and scouring the appendices that the parties' dispute is really one of semantics, to wit, what are the accused products. (See D.I. 237 at 18 n.17) Certainly to the extent that Dr. Henze has analyzed "Goodman's ComfortNet system" (defined as having a ComfortNet indoor or outdoor unit connected to a ComfortNet thermostat) as being "especially designed to practice claim 18" and as having "no substantial non-infringing uses" (D.I. 239, ex. 11 at 75), the court finds the analysis a sufficient basis for his opinion. Goodman complains, however, that Dr. Henze has offered his infringement opinions in

²⁴Requiring proof that the central control receives characteristic information from auxiliary equipment.

broader language, referring to “Goodman’s products” which may or may not include configurations which, e.g., include the “Accused Thermostats [which] can be installed and operated in systems with ClimateTalk-compatible Rheem indoor and/or Rheem outdoor units,” the latter units not among the accused products. (D.I. 252 at 12) Given that the parties have not made it easy to navigate the record, I could not find any analysis by Dr. Henze regarding non-ComfortNet system configurations. Under these circumstances, I decline to strike or exclude Dr. Henze’s testimony regarding infringement by Goodman’s ComfortNet system, as defined above. If the parties have issues relating to the proper scope of the case generally or Dr. Henze’s testimony specifically, as either relate to non-ComfortNet system configurations, I will address such concerns at the pretrial conference. Certainly the parties have to be on the same page at trial in this regard.

VII. CONCLUSION

For the foregoing reasons, the court denies Goodman’s motion for summary judgment of non-infringement (D.I. 235) and the competing motions for summary judgment of invalidity (D.I. 240; D.I. 244). The court grants in part and denies in part Goodman’s motion to strike and exclude certain expert testimony (D.I. 236).